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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,501	01/05/2006	Hideo Hada	SHIGA7.042APC	8200

20995 7590 02/08/2008  
KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER
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LEE, SIN J

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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02/08/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

# Office Action Summary

Application No.

10/563,501

Applicant(s)

HADA ET AL.

Examiner

Sin J. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/5/2006.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

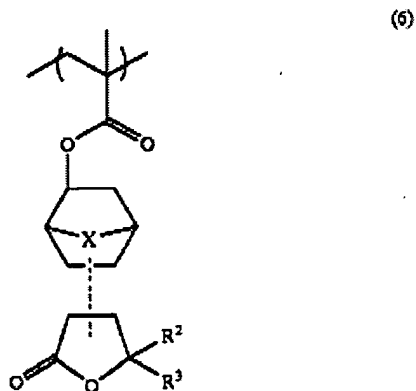
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

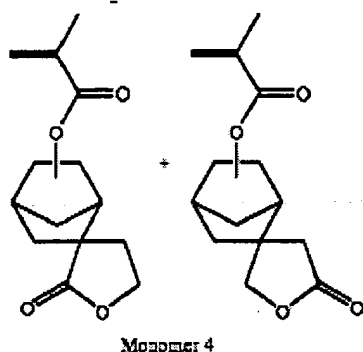
2. Claims 1, 3, 4, 9-11, 14 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Kinsho et al (US 6,746,818 B2).

Kinsho teaches (col.19, lines 19-39) a polymer having recurring units of the following formula (6) shown below;

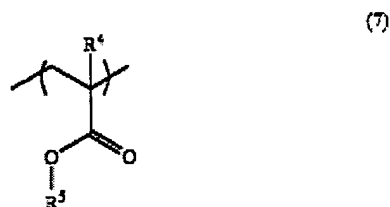


Specifically, in Example 4, Kinsho teaches the following compounds as the monomers that form the recurring unit of formula (6);

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Kinsho also teaches (col.19, lines 65-67, col.20, lines 1-39) that in a preferred embodiments, recurring units of following formula (7) can be introduced in the polymer;



As examples of R<sup>5</sup> (which is a tertiary alkyl group of 4-20 carbon atoms), Kinsho teaches 2-methyl-2-adamantyl. Based on Kinsho's teachings, one skilled in the art would immediately envisage a polymer formed from Monomer 4 and a 2-methyl-2-adamantyl. Kinsho teaches (col.20, 40-67) a positive resist composition containing his polymer, a photoacid generator (such as triphenylsulfonium trifluoromethanesulfonate) and an organic solvent. Kinsho also teaches the use of a basic compound (see col.21, lines 21-26). Using Kinsho's resist composition, a resist pattern is formed by applying the resist composition onto a substrate, heat treating the film, exposing it to high energy radiation having a wavelength of less than 300 nm or an e-beam though a photomask, optionally heat treating the exposed film, and developing it with a developer. (see col.21, lines 27-33). Thus, Kinsho teaches present inventions of claims 1, 3, 4, 9-11, 14 and 15.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 5, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinsho et al (US 6,746,818 B2).

Kinsho teaches (see col.20, lines 30-33) that his polymer is preferably composed of 5-80 mol% of units of formula (6) shown above in Paragraph 2 and 10-80 mol% of units of formula (7) shown above. Since these ranges overlap with present ranges of claims 2 and 5, the prior art's teaching renders present ranges prima facie obvious. In the case "where the [claimed] ranges overlap or lie inside ranges disclosed by the prior art," a prima facie case of obviousness would exist which may be overcome by a showing of unexpected results, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). Thus, Kinsho's teaching renders obvious present inventions of claims 2 and 5.

With respect to present claims 12 and 13, Kinsho teaches a mixture of propylene glycol monomethyl ether acetate and another solvent as his solvent. As examples of other solvents, Kinsho teaches ethyl lactate (see col.21, lines 1-20). It would have been obvious to one skilled in the art to use the combination of propylene glycol monomethyl ether acetate and ethyl lactate as Kinsho's solvents with a reasonable expectation of obtaining a photoresist composition having firm adhesion and high transparency when

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processed by ArF excimer layer light. Thus, Kinsho's teaching renders obvious present inventions of claims 12 and 13.

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinsho et al (US 6,746,818 B2) in view of Uetani et al (US 2001/0046641 A1).

Kinsho does not teach present repeat unit (IV). However, a resin containing such repeating unit (i.e., the unit derived from 3-hydroxy-1-adamantyl-(meth)acrylate) is known in the art to improve adhesion of the resist composition to a substrate (see Uetani, [0007]). It would have been obvious to one skilled in the art to further include the repeat unit of 3-hydroxy-1-adamantyl-(meth)acrylate in Kinsho's polymer in order to further enhance the adhesion of his resist composition onto a substrate. Thus, Kinsho in view of Uetani would render obvious present inventions of claims 6-8.

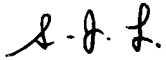
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

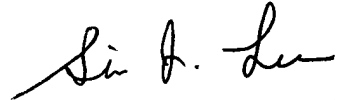
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Lee  
February 4, 2008



**SIN LEE**  
**PRIMARY EXAMINER**